

Amendments to the Specification:

Please replace the paragraph bridging pages 7 and 8 of the specification with the following amended paragraph:

In response to control information 408 from sequencer 400, arithmetic unit 404 proceeds to execute certain targeted operations on data stored in CAE memory 402. In one embodiment, arithmetic unit 404 operations span several clock cycles. Control information 408 also similarly spans several clock cycles to match arithmetic unit 404, such that a first delay introduced by the sequencer matches a second delay introduced by the arithmetic unit. The subsequent paragraphs use one type of digital signal processing operation, the LMS adaptive filter to describe one optimized implementation of arithmetic unit 404. The LMS adaptive filter generally follows the steps set forth below:

- 1) performing a dot product between the input data to the filter and the filter coefficients;
- 2) calculating the error between the output of the filter and a desired output response of the filter;
- 3) adjusting the filter coefficients in response to the calculated error; and
- 4) continuously repeating steps 1 – 3 while the calculated error drops to an acceptable level.